

Ambient Air Monitoring Updates

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EPA- Region 1

Maine Ambient Air Monitoring Meeting
Augusta, ME – March 9, 2016



Outline of Today's Presentation

- Review of monitoring issues
 - NAAQS Update- ozone final NAAQS
 - Clarifications to 40 CFR Part 58 and Appendix A
 - Near road monitoring
 - Maine's TSA
 - Miscellaneous Topics



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Overview

2015 Final

Ozone Standards

Health-based: 70 ppb

Welfare-based: 70 ppb

-On Oct. 1, 2015, the U.S. Environmental Protection Agency (EPA) strengthened the nation's air quality standards for ground-level ozone to improve public health and environmental protection.

-The updated standards will improve air quality broadly across the country, and are particularly important for at-risk groups, which include children, people of all ages with asthma and other respiratory diseases; older adults; and people who are active outdoors, especially outdoor workers, among others.

-EPA also updated the Air Quality Index (AQI) for ozone and the ozone monitoring season in many states to help inform the public about daily air quality.





Overview

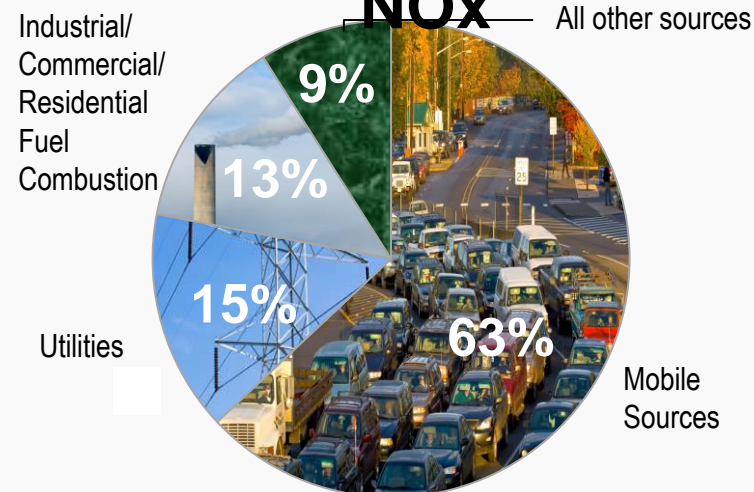
- The Clean Air Act requires primary standards to be “requisite to protect public health with an adequate margin of safety,” including the health of groups of people considered more at risk.
 - In making this judgment, the EPA Administrator considers factors such as the nature and severity of health effects, the size of the at-risk groups affected, and the degree of certainty and uncertainty in the science.
- The law requires EPA to review the standards every five years.
- The updated health standard of 70 ppb will significantly reduce ozone air pollution and will provide an adequate margin of safety to protect at-risk groups. The standard is especially important for children and people with asthma, who are at increased risk from ozone exposure, and will prevent hundreds of thousands of asthma attacks.
- Public health benefits of the updated standards are significant – estimated at \$2.9 to \$5.9 billion annually in 2025 and outweighing estimated costs of \$1.4 billion.
- EPA projections show the vast majority of U.S. counties will meet the standards by 2025 with federal and state rules and programs now in place or underway.
- EPA will work closely with states and tribes as they develop and implement clean air plans.



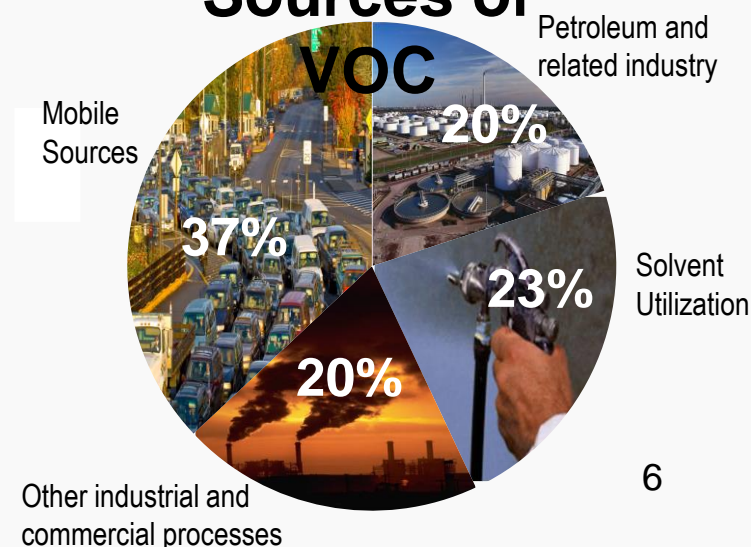
About Ground-Level Ozone

- Ozone is the main component of smog.
- It is not emitted directly into the air but forms when emissions of precursors, including nitrogen oxides (NO_x), volatile organic compounds (VOCs), and carbon monoxide “cook” in the sun.
- Emissions from industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are the major man-made sources of NO_x and VOCs.

Sources of NO_x



Sources of VOC

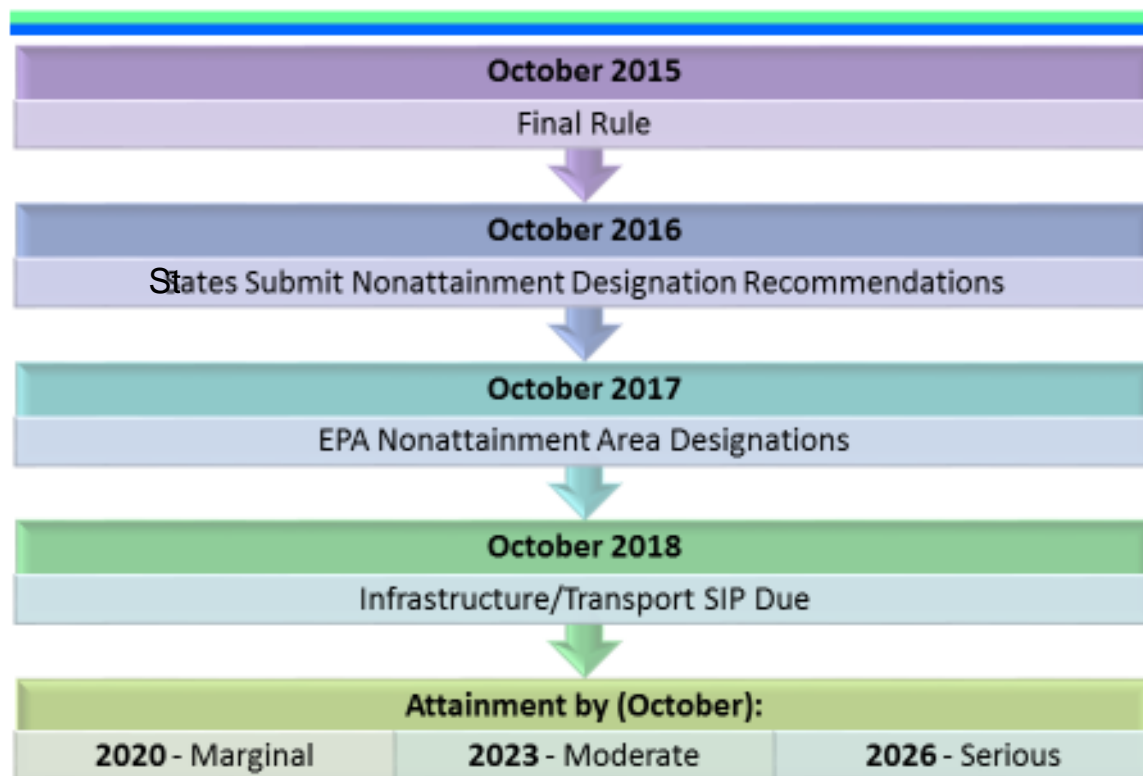




Timeline for designations and implementation

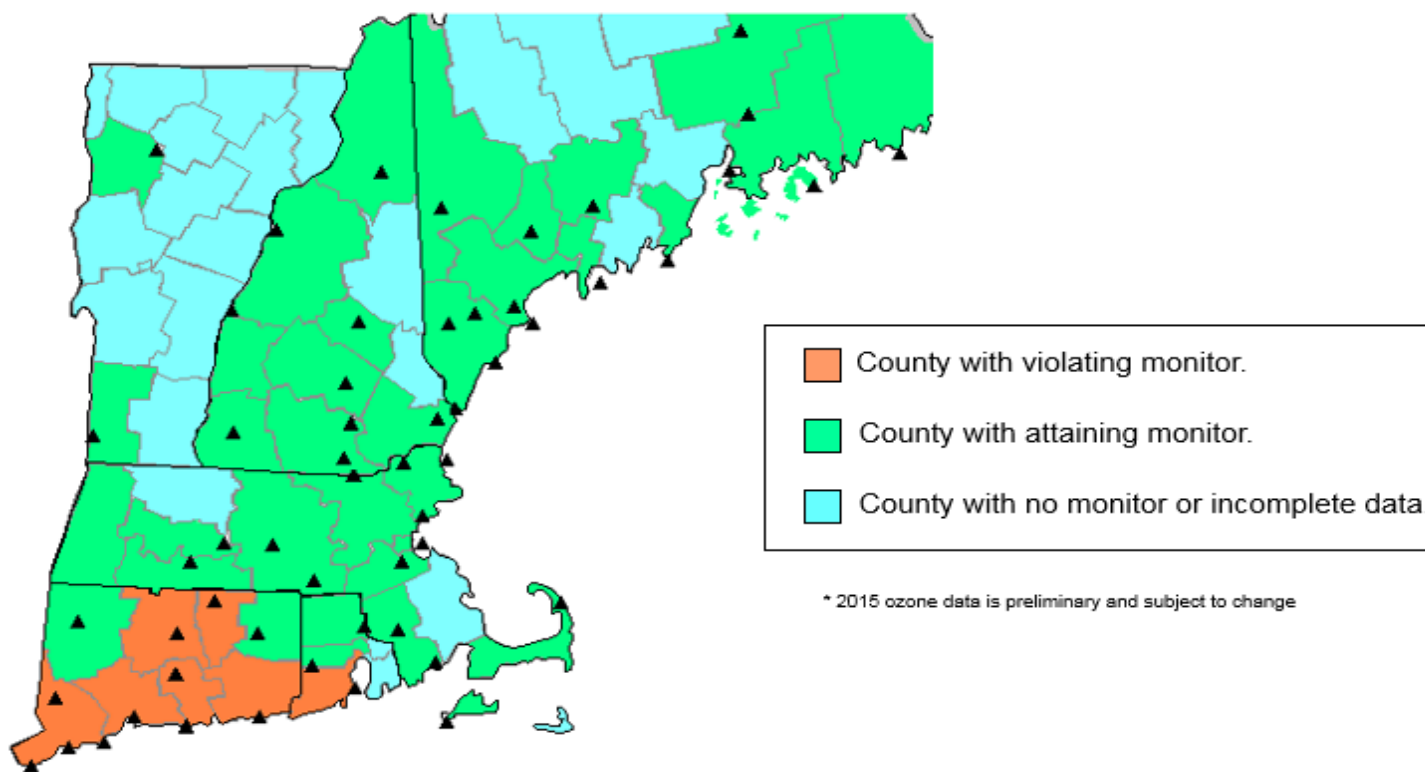
- After a standard is final, states and tribes work with EPA to make plans to meet it. This process is laid out in the Clean Air Act and some of the key milestones are shown here.

2015 Ozone NAAQS Timeline





***Status of Counties under the new 2015 8-Hour Ozone Standard
of 0.070 parts per million (ppm) based on 2013 – 2015* data.***



Also see:

http://ozoneairqualitystandards.epa.gov/OAR_OAQPS/OzoneSliderApp/index.html#

3/7/2016



Final Changes to the Air Quality Index

- EPA is updating the Air Quality Index (AQI) for ozone pollution.
 - The AQI is EPA's color-coded tool used by state and local governments to help inform the public about current and daily air quality and recommends steps that individuals can take to reduce their exposure to air pollution.
 - The AQI converts ozone concentrations to a number on a scale from 0 to 500.
- EPA is changing the breakpoints for each AQI category based on the level of the primary standard and information from the health studies examined in the review. (*Final AQI also includes "Very Unhealthy" and "Hazardous"*)
- New standard (and AQI cut points) become effective 60 days after publication in the Federal Register.

AQI Category	Index values	Current Breakpoints (2008 AQI) (ppb, 8-hour avg)	New Breakpoints (ppb, 8-hour avg)
Good	0 - 50	0 - 59	0 – 54
Moderate	51 – 100	60 – 75	55 – 70
Unhealthy for Sensitive Groups	101 - 150	76 - 95	71 - 85
Unhealthy	151 - 200	96 - 115	86 - 105



Final Changes to Monitoring Requirements

- EPA is finalizing changes to monitoring requirements to smooth the transition to revised standards and assure that the public has full information about air quality.
- **Ozone monitoring season**
 - Extend the ozone monitoring season for 32 states (and D.C.), to match the times of year when data show ozone can approach unhealthy levels, and to alert the public;
 - Finalize the requirement for year-round monitoring at 80 existing multipollutant monitoring sites (NCore) stations.
 - Implementation of revised seasons finalized (as proposed) for January 1, 2017.
- **Photochemical Assessment Monitoring Stations (PAMS)**
 - Revising PAMS applicability to require PAMS at all NCore sites located in CBSAs with a population greater than 1,000,000. Effective date will be June 1, 2019.
 - Finalizes changes to certain required measurement methods.
 - Moderate and above nonattainment areas, and States in the Ozone Transport Region required to submit Enhanced Monitoring Plans within 2 years of designation or October 1, 2019, whichever is later.
- **Ozone Federal Reference Method**
 - Finalizing a new ozone air monitor Federal Reference Method (FRM) while retaining the current FRM and Federal Equivalent Methods (FEMs).
 - Impact on state monitoring networks will be minimal as existing approved methods are adequate for continued operation.

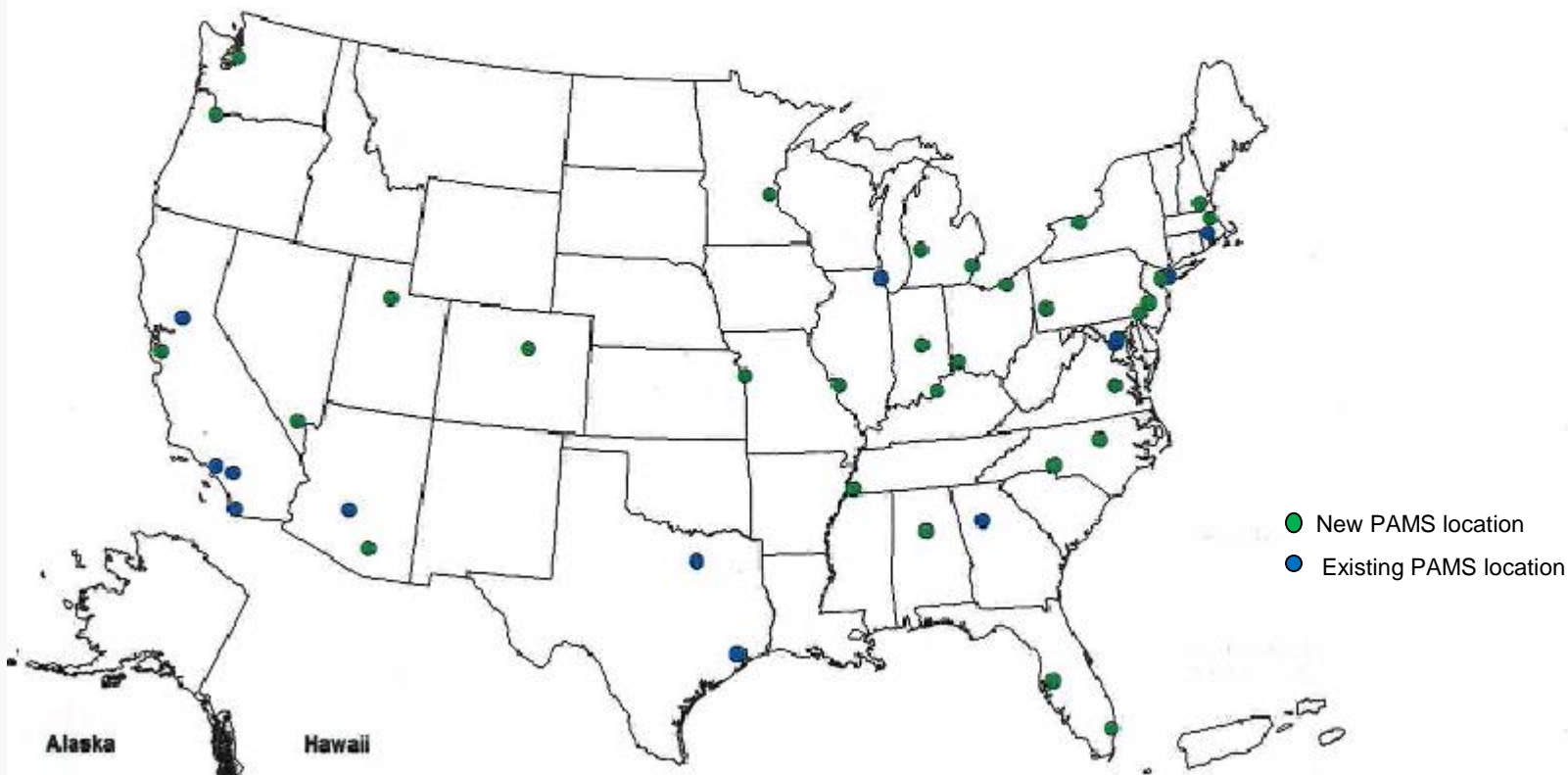


Final Changes to PAMS Monitoring Requirements

- Require PAMS monitoring at existing NCore monitoring site in large urban areas with a population of 1,000,000 or more. (NCore is a multi-pollutant monitoring network for particles, gases and meteorology.) This change reduces the required number of PAMS sites while improving geographic distribution and reducing redundancy in the network. At a minimum, PAMS measurements must be performed in June, July, and August.
- Require states that operate PAMS sites to measure nitrogen dioxide, hourly speciated VOCs, three 8-hour averaged carbonyls on every third day and hourly averaged mixing height, in addition to a number of other meteorological parameters (e.g. wind speed and direction). EPA included a waiver option that could allow the use of less frequent, longer-averaged VOC measurements in limited situations, and the possibility of meteorological measurements at nearby locations.
- Require Enhanced Monitoring Plans to allow monitoring agencies with moderate, serious, severe or extreme nonattainment areas and states in the Ozone Transport Region (OTR) the flexibility to determine and collect the additional data they need to better understand their ozone problems.
- States will need to comply with the new PAMS monitoring requirements at NCore sites by June 1, 2019. Enhanced Monitoring Plans will be due within two years after EPA designates nonattainment areas or by Oct. 1, 2019, whichever is later.

Estimated location of required PAMS locations based on final network design requirements

(ie, NCore sites in CBSAs with greater than 1,000,000 population)



Got it?

- What does this mean for me..?





Final Ozone Monitoring Season in Region 1 and 2 (NESCOAUM)

- Connecticut (March 1- Sept. 30)
- **Maine (April 1- Sept. 30) (*unchanged*)**
- Massachusetts (March 1- Sept. 30)
- New Hampshire (March 1- Sept. 30)
- Rhode Island (March 1- Sept. 30)
- Vermont (April 1- Sept. 30) (*unchanged*)
- New Jersey (March 1 – Oct. 31)
- New York (March 1 – Oct. 31)

- Ozone monitoring at *NCore stations to be January – December (year round)* regardless of location

- Implementation Deadline – revised season requirements to be effective on first day of ozone monitoring season in **2017** for existing stations.



Regulatory Revisions Finalized for PAMS

- Require PAMS at all NCore sites in CBSAs with a population greater than 1,000,000.
- In Region 1, this includes NCore sites at **East Providence, RI; Roxbury, MA; and Londonderry, NH.**
- In Region 2, this includes NCore sites at **Rochester, NY; Queens College, NY; and Newark Firehouse, NJ.**
- Require PAMS during PAMS season (June, July, August) at above NCore sites but allow for Regional approval of alternative site.
 - Require sites to collect hourly VOC data*
 - Require sites to collect carbonyls (3 8-hour samples daily) on a 1 in 3 schedule (or hourly formaldehyde)
 - Require sites to measure “true NO₂” in addition to current NOy
 - Change requirement for upper air meteorology to requirement for measuring mixing height*

**EPA included a waiver option that will allow the use of less frequent, longer-averaged VOC measurements in limited situations, and the possibility of meteorological measurements at nearby measurements.*

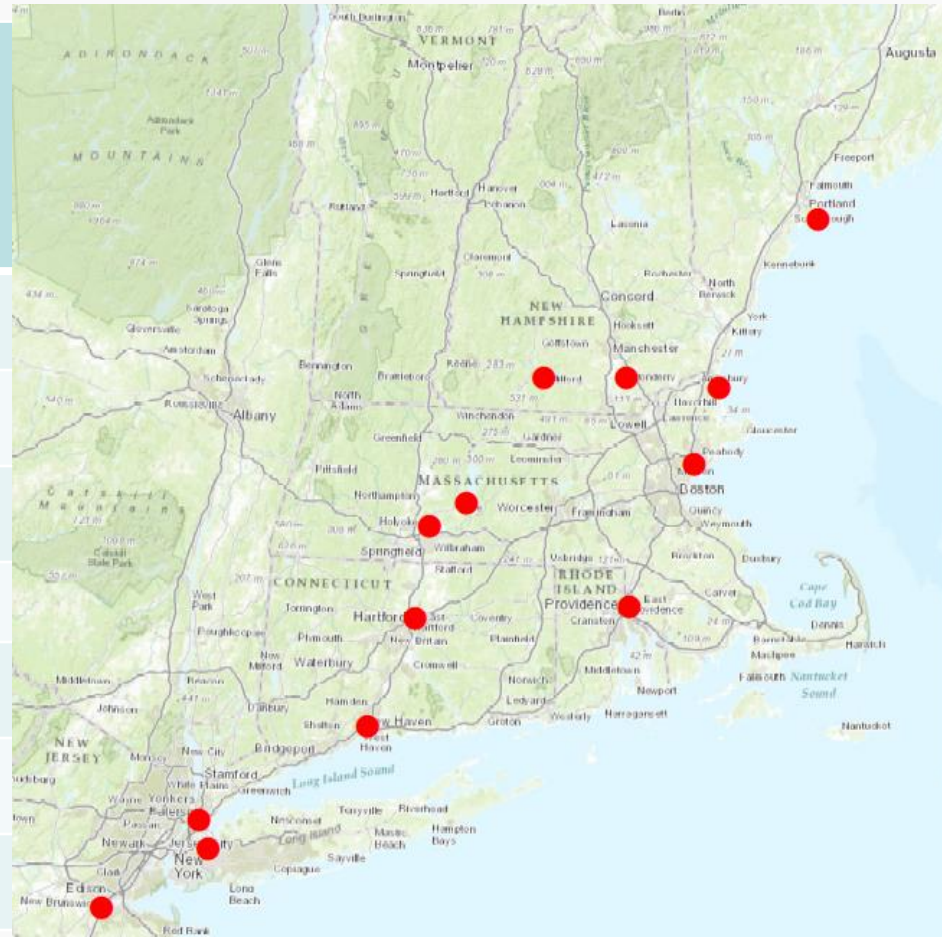
- Require all O₃ moderate (and worse) NA areas and States in the OTR (i.e. all of NESCAUM Region) to also develop and implement an “enhanced ozone monitoring plan”
 - Could include additional O₃ sites; additional NOx or NOy sites; additional VOC measurements (different time periods or different locations); enhanced upper air measurements; etc.

*EPA intends to redistribute available PAMS funding to support the new requirements.



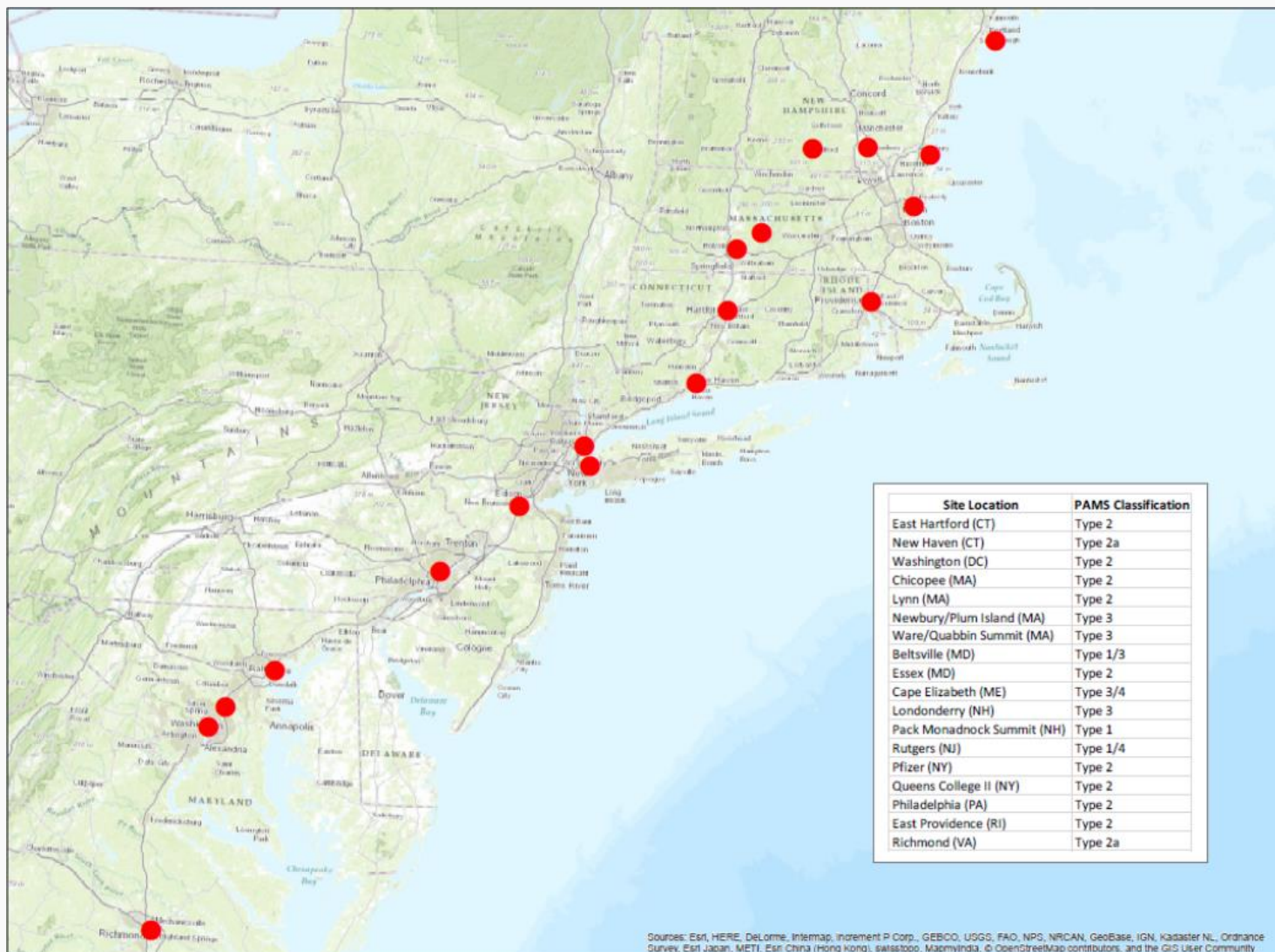
PAMS Network in Northeast

	Historical # Sites	Current # Sites	NCore sites in CBSAs > 1,000,000
CT	4	2	
MA	8	4	1
ME	2	1	
NH	2	2	1
RI	2	1	1
NJ	3	1	1
NY	2	2	2





Active PAMS site in OTC



Active PAMS Sites in the Northeast

PAMS Site Locations:

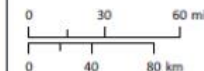
● Active

Date: December 14, 2015

Map Projection: GCS NAD83

Data Sources:

PAMS Site Locations -
U.S. EPA Air Data (2015);
Base Map - ESRI (2015).



Site Location	PAMS Classification
East Hartford (CT)	Type 2
New Haven (CT)	Type 2a
Washington (DC)	Type 2
Chicopee (MA)	Type 2
Lynn (MA)	Type 2
Newbury/Plum Island (MA)	Type 3
Ware/Quabbin Summit (MA)	Type 3
Beltsville (MD)	Type 1/3
Essex (MD)	Type 2
Cape Elizabeth (ME)	Type 3/4
Londonderry (NH)	Type 3
Pack Monadnock Summit (NH)	Type 1
Rutgers (NJ)	Type 1/4
Pfizer (NY)	Type 2
Queens College II (NY)	Type 2
Philadelphia (PA)	Type 2
East Providence (RI)	Type 2
Richmond (VA)	Type 2a




Ozone NAAQS Review Schedule

- **Proposal** signed on November 25, 2014
- **Final Rule** signed on October 1, 2015, and published on October 26, 2015
- For more information on the rule, go to:
<http://www3.epa.gov/ozonepollution/actions.html>



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40 CFR Part 58 Appendix A Tune-up



NC

= No change from proposal.....

CFP

=Change from proposal

NOTICE: The rule is not finalized...this is what we “expect”

X = negative comment
O = positive Comment



Aff	Moving PSD in own section	1- PT QC	Annual PE	PGVP	TSA	QA Collocation 1 site	QA Collocation flex	QAPP	QMP	NPAP	Pb threshold	Removing Annual PE in all 4 quarters	Removing PM10-2.5	Removing PB at Ncore	Removing excess NO	PQAO langauge addition	Independent Assessment	Flow rate verification	Randomization of Flow	Monitoring Org Definition	Remove TSP Threshold	Remove Stat Checks
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PSD Monitoring QA Back to Appendix B



NC

- Move it back to Appendix B and provide better detail/specification
- Define QA responsibilities based on permitting organization (Fed vs. State)
- Describe how NPAP/PEP will work for PSD
 - Optional if data not used for NAAQS purposes.





PQAO

NC

- Emphasis of PQAO throughout App A
- Moved up to Applicability Section
- No change in definition, but
- Agency identified as the PQAO (usually the state agency) will be responsible for overseeing that the Appendix A requirements are being met by all consolidated locals within the PQAO.

Removed QA Requirements for PM_{10-2.5} and Pb at NCore



NC

- PM_{10-2.5} included when NAAQS expected and monitoring moved to NCore sites
- Pb- NCore included at last minute for a start in using lo-volume monitoring for Pb. (**Note- lead at urban NCore proposed for elimination**)
- 11th hour switch to NCore created a national vs. a PQAO-based QA program.
- We tried to set up a system to get an equitable distribution of QA across the Regions
- Requirements will be included in guidance which will allow more flexibility for change

QMP & QAPP Submission and Approval Dates in AQS



NC

- Used 2011 Excel spreadsheet to input current QAPP info into AQS*
 - QMP has also been entered
 - Regions and Monitoring Orgs will be able to edit new dates
- Added courtesy copy language to regs for providing an electronic version of QAPPs to EPA Regions for those self approving agencies.

* <https://aqs.epa.gov/aqsweb/codes/data/QAPP.html>

NPEP and NPAP



NC

- NPEP
 - Added some language on “self-implementation”
 - Added the definition of independence which is found in the annual self-implementation memo* to provide a better reference and ensure implementation
- NPAP
 - Never had much language in CFR
 - Added requirements from annual self-implementation memo*

* <http://www3.epa.gov/ttn/amtic/files/ambient/pm25/qa/npappep2016.pdf>

Participation in AA-PGVP



NC



- Required to participate in 10-minute survey
 - Lets us know what vendors being used.
- Added potential for EPA to request a cylinder from you every 5 years.
 - EPA will cover shipping
 - We provide free DOT training
 - You get a free verification





Lowering 1-Point QC Check Concentration Range

CFP

- SO₂, NO₂, and O₃, NC
 - Current: 0.01 - 0.1 ppm
 - Proposed/Final: 0.005 - 0.08 ppm
- CO NC
 - Current: 1 – 10 ppm
 - Proposed/Final: 0.5 - 5 ppm
- Proposed- selection based on mean/median concentration CFP
- **Final**
 - The QC check gas concentration selected within the prescribed range should be related to the monitoring objectives for the monitor.
 - If monitoring at an NCore site or for trace level monitoring, the QC check concentration should be selected to represent the mean or median

Annual Performance Evaluation



NC

- Increased to 10 audit level concentrations
- Modified language so that it's not a requirement to audit sites a second time in order to fulfill audits in each quarter.
- Removed requirement to audit three consecutive audit ranges
- Removed requirement for Regional Administrator (or designee) approval for use of audit gases at ranges higher than the highest concentration in level 10.
 - Added language to notify AQS to accommodate audits higher than level 10

Annual Performance Evaluation ... Continued



- Revised proposed “80% bracketing language” for the three audits
 - 2 audits at 10-80% of routine concentrations
 - The third audit at the NAAQS or above the highest 3-year concentration whichever is greater.
- Final
 - One point must be within two to three times the method detection limit of the instruments within the PQAOS network,
 - the second point will be less than or equal to the 99th percentile of the data at the site or the network of sites in the PQAOS or the next highest audit concentration level, and
 - The third point can be around the primary NAAQS or the highest 3-year concentration at the site or the network of sites in the PQAOS.

Added Reporting of Flow Rate Verifications for all PM and Pb



NC

- Flow rate verifications are important. They are the “one-point QC check” for PM & Pb.
- Only check in Appendix A required to be performed but not reported for all PM parameters
 - Current requirement is for PM₁₀ continuous only
- Regions emphasized their importance and difficulty finding information during TSAs.
- Of 1110 SLAMS PM_{2.5} samplers/monitors 543 (49%) were reporting verifications to AQS.

PM Collocation Revisions





NC

- No “official” multiple collocations at one site
 - Only collocation that counts is collocation to the primary monitor
 - One site can not serve multiple collocation purposes
- Site selection flexibility
 - Current : 80% collocation at highest 20% conc.
 - Final: 50% collocation at highest 20% conc.



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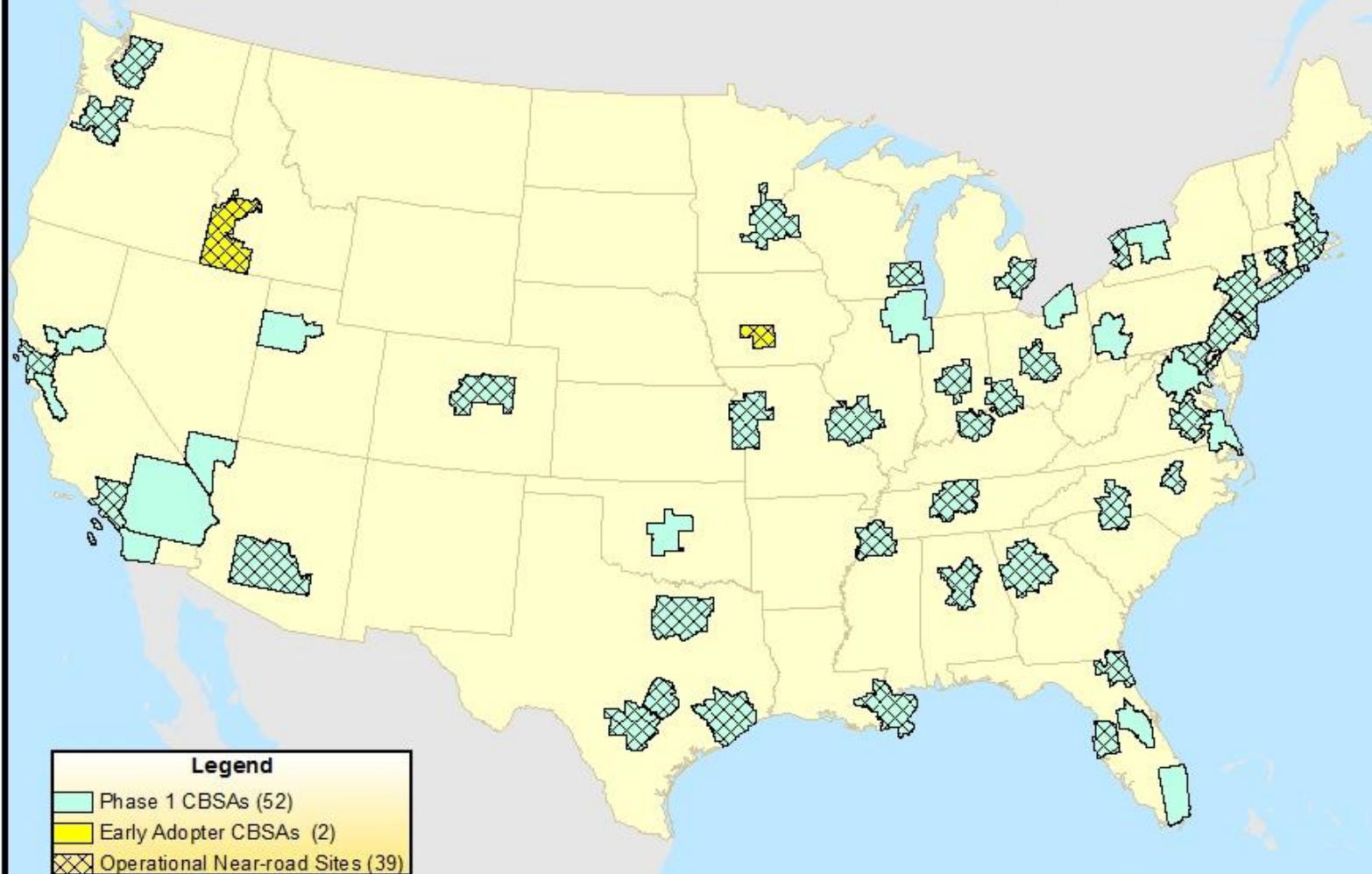
Near-Road Monitoring Timeline



Implementation Phase	CBSA Population	NO ₂	CO*	PM _{2.5} *
<u>Phase 1</u> 52 Sites [funded]	≥ 1 Million	Jan 1, 2014	Jan 1, 2015 for CBSAs ≥ 2.5M Jan. 1, 2017 CBSAs ≥ 1M and ≤ 2.5M	Jan 1, 2015 for CBSAs ≥ 2.5M Jan. 1, 2017 CBSAs ≥ 1M and ≤ 2.5M
<u>Phase 2</u> 23 Sites (second sites) [funded]	≥2.5 Million OR road segment ≥250,000 AADT (NO ₂ only)	Jan 1, 2015 (second site)		
<u>Phase 3</u> 51 Sites [unfunded]	Between 500K and 1 Million	Jan 1, 2017		

*Near-road CO and PM_{2.5} monitors are required to be co-located with an NO₂ monitor.

Near-road Monitoring Network - Aug. 2014



Note: San Juan, PR (not shown) does not have its Phase 1 near-road site operational as of Aug. 2014.



Near road Monitoring requirements in New England – NO₂, CO, and PM_{2.5}

CBSA	Near Road NO₂ Monitor(s) Schedule	Near Road CO monitor Schedule	Near Road PM_{2.5} monitor Schedule
Bridgeport, CT	Jan. 1, 2017	Not required	Not required
Hartford, CT	Jan. 1, 2014	Jan. 1, 2017	Jan. 1, 2017
New Haven, CT	Jan. 1, 2017	Not required	Not required
Boston, MA/NH	Jan. 1, 2014 Jan. 1, 2015 (2nd)	Jan. 1, 2015 (1 site)	Jan. 1, 2015 (1 site)
Worcester, MA	Jan. 1, 2017	Not required	Not required
Springfield, MA	Jan. 1, 2017	Not required	Not required
Portland, ME	Jan. 1, 2017	Not required	Not required
Providence, RI/MA	Jan. 1, 2014	Jan. 1, 2017	Jan. 1, 2017

*Completed/ requirement met in red

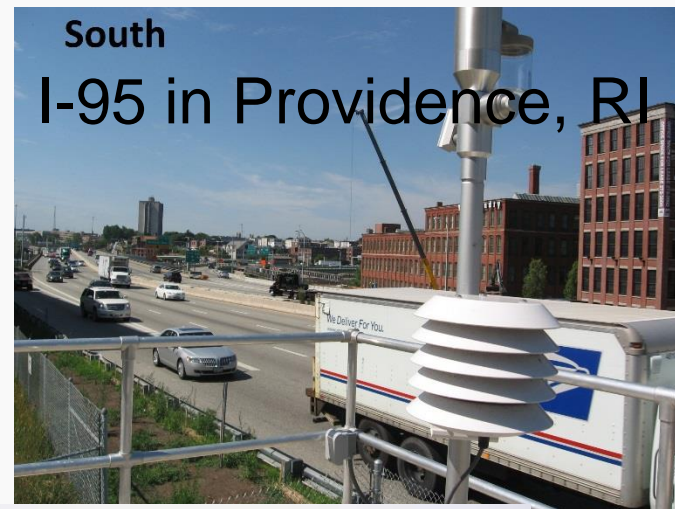
Near-road monitoring in New England

- Near road locations...

I-84 in Hartford, CT



South
I-95 in Providence, RI



I-93 in Boston, MA





Deering Oaks, State Street, Portland, ME

- Page 9 of EPA Approved 2014 Maine Annual Network Plan reads...
“Currently, EPA is working toward ensuring the near-road sites with the highest probability for high NO₂ concentrations begin monitoring as soon as possible, with smaller areas, such as Portland, being operational by January 1, 2017. Maine DEP will be working to demonstrate to EPA that the Portland Deering Oaks site is located at the site of maximum expected NO₂ concentrations. **However, at the present time EPA is skeptical the site meets the near-road siting criteria under the rule.** If we are unable to make an affirmative demonstration, then an additional monitor will be required. “

Near-Road Monitoring Specifics






- Multi-pollutant near-road sites will fill a number of current data gaps:
 - Improved understanding of human exposure on and near roads
 - Improved understanding of pollutant behavior, interaction, and dispersion in the near-road environment
- Required Metrics:
NO₂, CO, PM_{2.5}
- Optional Metrics:
Black Carbon, Ultrafine PM, Air Toxics, Ozone, Meteorology, Traffic Count





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Maine's TSA- “Thanks for having us”

Date: September 25, 2015

Subject: Technical System Audit for Criteria Pollutants and PAMS in Maine

Audit Dates: May 18, 2015 through August 20, 2015

Auditors: Bob Judge Air Monitoring Coordinator, EPA-NE
David Mackintosh Environmental Engineer, EPA-NE
Mary Jane Cuzzupe Maine State Air Monitoring Contact, EPA-NE
Alan VanArsdale Environmental Scientist, EPA-NE
Chris St. Germain Environmental Protection Specialist, EPA-NE
Dan Curran Chemist, EPA-NE

Staff Interviewed:

Andy Johnson	Director, Division of Field Services
Rick Marriner	Environmental Specialist IV
Stacy Knapp	Environmental Specialist III
Cathy Demers	Environmental Specialist III
Danni Twomey	Environmental Chemist III
Paul Gregory	Environmental Specialist III
Dan Thoma	Environmental Specialist II
Liza Woodward	Environmental Specialist
Fred Currie	Environmental Specialist II
Mike Dunn	Environmental Specialist II
Marylee Mullen	Environmental Specialist III
Kevin Kruez	Environmental Specialist II
Don Darling	Environmental Specialist III
Kelly Langley	Environmental Specialist II
Brad Bachelder	Metrologist, Department of Agriculture
Don Langley	Metrologist Assistant, Department of Agriculture
Andrea Galasyn	Environmental Chemist

References Used:

- (1) Code of Federal Regulations: 40 CFR Part 58 - Ambient Air Quality Surveillance
- (2) EPA-454/B-13-003 - EPA Quality Assurance Handbook for Air Pollution Measurement Systems Volume II
- (3) Appendix H of QA Handbook entitled "National Ambient Air Monitoring Technical System Audit Form"- Region 1 version, January, 2015
- (4) Maine DEP Quality Assurance Project Plans

I. Introduction

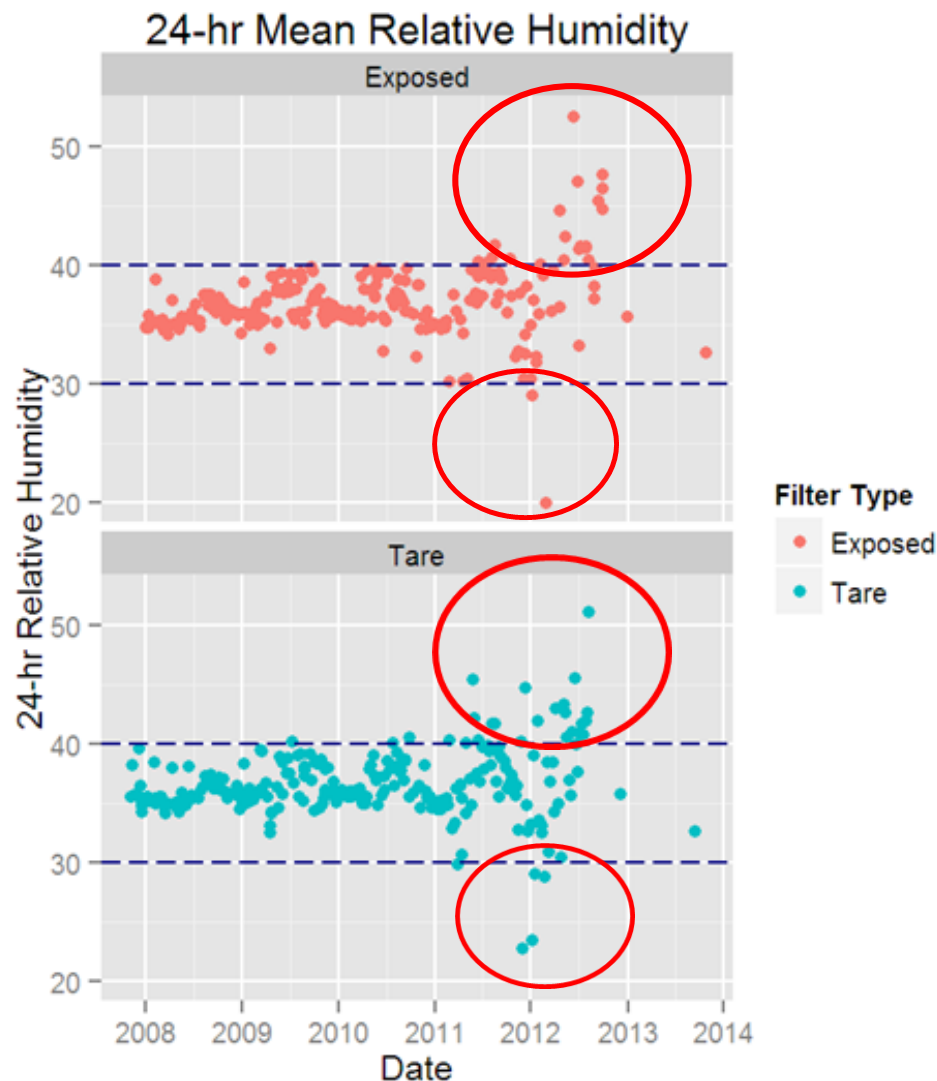
This Technical Systems Audit (TSA) was performed to meet the requirements in 40 CFR Part 58 and covers the Maine Department of Environmental Protection (ME DEP) air monitoring program for criteria air pollutants and the Photochemical Air Monitoring Stations (PAMS) program for the timeframe since the last TSA which was conducted during 2012. The audit team primarily focused on operations that were performed during calendar year 2014 and 2015, and reviewed the 2013 – 2015 data that was available in the Air Quality System Database (AQS). Since the last audit report dated September 27, 2012, ME DEP has undergone major personnel changes and is struggling to maintain a quality air monitoring program. The audit team wants to thank Andy Johnson, Rick Marriner, Danni Twomey and the entire staff of the Air Monitoring and Lab & QA Sections for their assistance. We are particularly thankful to Cathy Demers for training all field staff in the use of the new QA transaction

40 CFR Part 58, Appendix A...

2.5 Technical Systems Audit Program. Technical systems audits of each ambient air monitoring organization shall be conducted at least every 3 years by the appropriate EPA Regional Office and reported to the AQS. Systems audit programs are described in reference 10 of this appendix. For further instructions, monitoring organizations should contact the appropriate EPA Regional QA Coordinator.

Participate and respond to EPA in a Technical Systems Audit (TSA) for ME DEP during FY 2015. (OAQPS M07)	Andy Johnson 287-7047	Tech: Bob Judge - 8387
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Real World TSA Findings - Lab



Relative humidity 24-hr mean must be 30% - 40% RH

- 40 CFR Part 50, App.L Sec 8.2.3

Electronic strip chart shows weighing conditions outside of the stated range

Resulted in invalidation of data points over multiple years

ME DEP/EPA TECHNICAL SYSTEMS AUDIT CORRECTIVE ACTION PLAN

Submitted by EPA 9/30/15

Updated by MEDEP 1/4/2016

Finding #	Required Corrective Action	Proposed Corrective Action	Responsible Official	Due Date
1.	Additional personnel backup support and training are needed (evident in Presque Isle and other offices).	Ongoing concern: <i>BAM training in MA for two staff on 10/22/2015. 8872 Data Logger training held 11/4/2015 for All monitoring staff. Several Staff met w/ Thermo Rep in Portland on 11/17/16 for PM and BAM training. One staff to Franklin MA on 12/16 to tour facility. DEP authorized to hire the ES-II position in Central Maine Office vacated 12/18. Staff encouraged to visit AMTIC web pages and participate in EPA training courses.</i>	Marc Cone/ Andy Johnson/ Rick Marriner/ Danni Twomey	12/31/15
2.	New equipment and operating spare monitoring instruments are needed.	Ongoing Concern. Purchases of <u>new</u> equipment will continue as funds are available, and more effort will be focused on Staff making repairs to inoperable equipment more quickly.	Andy Johnson/ Rick Marriner/ Danni Twomey/ Cathy Demers/ Fred Currie/ Don Darling/ Kelly Langley	12/31/15
3.	Additional technical support is needed to implement an auto calibration program and remote access with the installed internet connection (evident at Gardiner and other sites in the network).	Ongoing Concern. One of the primary tasks of newly hired ES-III in Lab and QA section is to be responsible for IT issues that restrict auto polling and calibrations.	Andy Johnson/ Rick Marriner	12/31/15
4.	AQS Data (including precision and accuracy data) needs to be entered into AQS in a timely fashion. ME DEP must ensure that data completeness criteria are being met throughout the State. This includes precision and accuracy data. (Also noted in 2012 TSA.)	Ongoing Concern.	Andy Johnson/ Rick Marriner/ Danni Twomey/ Cathy Demers/ Fred Currie/ Don Darling/ Kelly Langley	12/31/15
5.	PQAO needs to operate as a single entity, including sharing QAPPs and operating consistent with the QAPP. (Also noted in 2009 and 2012 TSAs.)	Ongoing Concern. Standardization of electronic forms for flow checks, PZS, etc. among Regional Office Staff has been started. Will work with EPA Region One to continue liaison with tribes. Annual Air Monitoring Committee Meeting for all stakeholders scheduled for 2/24/2016.	Andy Johnson/ Rick Marriner/ Danni Twomey	12/31/15







Finding #	Required Corrective Action	Proposed Corrective Action	Responsible Official	Due Date
6.	The Metrology Lab must recode PM data in AQS due to FRM data being out of specifications (relative humidity not maintained between 30% and 40% at all times). Recommend PM _{2.5} filters weighed under these conditions be recoded to 88501. Similar recoding will be necessary for the PM ₁₀ filters that were weighed under similar conditions.	Negotiations w/ EPA AQS staff to handle the recoding of all 88101 data in AQS all the way back to 1999 were unsuccessful as far as ME DEP was concerned. Staff began the process on 2015 data in December but found that changes were also necessary to all internal and PEP audits, and flow checks QA/QC data as well. Want to complete this task by 3/1/2016.	Andy Johnson/ Rick Marriner/ Brad Bachelder	11/15/15
7.	ME DEP needs to update their PM QAPP and SOPs to accurately document the procedures that the metrology lab is using. ME DEP should also ensure that the Metrology Lab's most recent SOP is included in the QAPP*. (Relative humidity needs to be measured continuously when filters are being conditioned, not just during the weighing sessions.) (*Also noted in 2012 TSA.)	PM QAPP and SOP's are an Ongoing Concern. ME DEP Purchased and installed a Dickson One equipment and software to continuous monitor and record Relative Humidity and Temperature in the Maine Weighing Lab PM filter room. Weighing Lab RH has been within CFR specs since it was partitioned off on 5/28/2015.	Andy Johnson/Rick Marriner/Brad Bachelder/Danni Twomey	11/15/15
8.	ME DEP should revise/update its Gaseous and Air Toxics QAPPs as soon as possible. (Also note in 2012 TSA.)	Ongoing Concern	Andy Johnson/ Danni Twomey	11/15/15
9.	All ME DEP Regions are part of the same PQAO and must operate as such. Technical oversight and consistency is required in all of the four ME DEP Regions. Specific issues noted include: leak check procedures, transport coolers, remote precision, zero, and span checks and monitor operating ranges.	Ongoing Concern (See #5 above)	Andy Johnson/ Rick Marriner/ Danni Twomey/ Cathy Demers/ Fred Currie/ Don Darling/ Kelly Langley	12/31/15
10.	Bangor Regional Office/"labs" could utilize better housekeeping/equipment storage and organization. (Also noted in 2009 and 2012 TSAs.)	Ongoing Concern at ALL regional Offices. Lab conditions and safety checks will be part of the Quarterly Regional Office visit routine. Bangor Lab was inspected on 12/7/15 and the need for a combustible storage locker was discussed and purchase approved.	Andy Johnson/ Rick Marriner/ Danni Twomey/ Cathy Demers/ Fred Currie/ Don Darling/ Kelly Langley	12/31/15
11.	PM ₁₀ heads and VSCC should be brought back to the lab for cleaning rather than on site.	Each Regional Office now has at least one spare PM head and Staff instituting the new cleaning protocol. SOP and QAPP inclusion to follow.	Andy Johnson/ Rick Marriner/ Danni Twomey	12/31/15
12.	ME DEP should find a replacement ozone site for Bowdoinham.	Two possible sites identified on Phippsburg peninsula. Awaiting permissions.	Andy Johnson / Rick Marriner/ Fred Currie	12/31/15
13.	There are significant tree issues at Lovell. Progress needs to be made prior to next ozone season by either moving the site	New site to replace Lovell has been established in Bethel. Shelter has been set up and ozone sampling will occur at	Andy Johnson/ Rick Marriner/	12/31/15

Complete

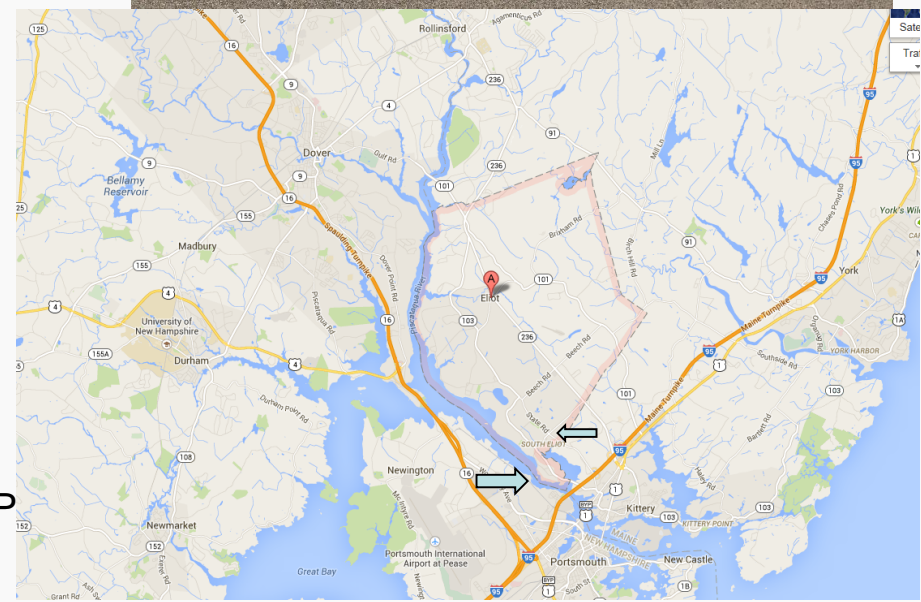


Outline of Today's Presentation

- Review of monitoring issues
 - NAAQS Update- ozone final NAAQS 
 - Clarifications to 40 CFR Part 58 and Appendix A 
 - Near road monitoring 
 - Maine's TSA 
 - Miscellaneous Topics



SO₂ Special Study- Eliot, Maine



3/7/2016

U.S. Environmental P

South Portland passive tube (benzene) study?





Air Quality Sensors

Advanced Monitoring Update



EPA Sensor Evaluation Activities

- Ozone, NO₂, PM and VOC Sensor Evaluations
 - Ozone and NO₂ sensors evaluated in 2012/2013*
 - A host of low cost (<\$2500) PM_{2.5} and VOC sensors purchased or acquired for laboratory and/or field evaluation in 2013/2014
- Publications
 - Air Sensors Guidebook
 - Citizen Science Fact Sheet
 - Mobile Air Sensors & Applications for Air Pollutants
 - Sensor Evaluation Report
- Village Green Project
- Short Term Sensor Field Projects
 - Discover AQ; AIRS; Roadside, wildfire, fenceline
- Sensor Seal and other Evaluation efforts
 - FY16 Initiative
 - South Coast AQMD project





Benefits

- Enhanced capability to monitor at local levels
- Enhanced ability to understand people's exposure to air pollution as they actually experience it
- Combined with other technologies (e.g. satellites and models), improved understanding of air quality
- Improved ability for individuals to take specific actions to protect their health
- Over time, ability to improve compliance with air regulations

Challenges (Opportunities)

- Data quality & levels of detection
- Interpretation & communication of the data
- Big data

SAVE THE DATE

National Ambient Air Monitoring Conference

Hyatt Regency St. Louis at the Arch






St. Louis, Missouri

August 8-11, 2016





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Questions?

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